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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,238	01/31/2002	Kenichi Ono	218888US2	6552
22850	7590	12/09/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			PHAM, HAI CHI	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/059,238

Applicant(s)

ONO, KENICHI

Examiner

Hai C. Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-20 is/are rejected.
- 7) ☒ Claim(s) 8,9,21 and 22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 01/31/02, 06/25/02, 9/17/03, 3/2/04, 4/6/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 10-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10:

- The following limitation "the image data" at line 8 is unclear in that it is not known whether it is the print image data or the input image data that has equal values for the pixels.

Claim 12:

- The method claim 12 does not clearly define whether the recited method is limited to the functional steps recited (i.e. "consists of" the steps), the steps recited and any additional steps (i.e. "comprises" the steps), or some other degree of limitation (e.g. "consists essentially of" the steps),
- The following limitation "the image data" at line 8 is unclear in that it is not known whether it is the print image data or the input image data that has equal values for the pixels.

Claims 11 and 13 are dependent from claims 10 and 12 above, and are therefore indefinite.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 10-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Kerby et al. (U.S. 6,445,404).

Kerby et al. discloses an imaging apparatus and method for outputting print image data in accordance with input image data, wherein gradation representation is performed by inputting image data of a resolution lower (e.g., 300, 600 dpi) than that of an imaging apparatus (e.g., 1200 dpi) (col. 4, lines 30-46), and outputting different data for each of a given number of pixels in a secondary scanning direction, the image data having equal values for the pixels (e.g., the inputted image data of the first resolution is converted into a second resolution format, which is greater than the first resolution by replication to provide two identical amounts of digital image data (col. 4, lines 47-67).

Kerby et al. further teaches the pixels being written simultaneously by corresponding light beams by an optical writing unit (e.g., using the dual laser) (step 110, Fig. 2) (col. 5, lines 1-14).

With regard to claims 10 and 11, it is noted that even though the product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production." In other words, the product in such claim is unpatentable if it is the same as, or obvious form, product of prior art, even if prior product was made by a different process. In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113. In this case the product is the same as product of prior art.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-7 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasanuma et al. (U.S. 6,091,512) in view of Seto et al. (U.S. 5,379,126).

Sasanuma et al., an acknowledged prior art, discloses a multi-beam image forming apparatus comprising a data conversion part (density conversion) that converts an input image data into data specifying a pulse width (e.g., pulse width modulation circuit 411), wherein the image data is input to said data conversion part a given number of times in succession (a plurality of line-direction image data being successively inputted), and said data conversion part performs a different data conversion for each of scanning lines of the given number based on the input image data (each of the successive lines of the line-direction image data being subjected to a density conversion using a different conversion characteristic for each line) (col. 2, lines 34-44).

Sasanuma et al. fails to teach the input image being a multi-bit input image data.

Seto et al. discloses an image forming apparatus comprising a data conversion part (density conversion) that converts an 8-bit input image data (VDO) into data specifying a pulse width modulation.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a multi-bit input image data in the device of Sasanuma et al. as taught by Seto et al. The motivation for doing so would have been to provide a greater information related to density tone data advantageous to a better density conversion.

Sasanuma et al. further teaches:

- said data conversion part comprises a conversion table (γ LUT) using a storage part (Fig. 13A),
- a control part that sets any value for each of the scanning lines in said conversion table (e.g., using a random number generator 406),
- a plurality of data conversion parts provided individually for the corresponding light beams (Fig. 13A),
- wherein each of the data conversion parts includes a data conversion table (γ LUTs) using a storage part,
- a control part that sets any independent value in each of said conversion tables for the corresponding light beam (independent random number generators 406) (Fig. 13A),
- the light beams are output differently from each other based on the modulation code data (each of the laser diodes 9 having its own pulse width modulation circuit 411).

Allowable Subject Matter

9. Claims 8-9 and 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: the primary reason for the indication of the allowability of claims 8 and 21 is the inclusion therein, in combination as currently claimed, of the limitation "wherein each of said data conversion parts includes a register to which rewritable pulse-width data and a rewritable phase code are input and a selector that selects a given one of written contents of the register based on the input multi-level image data", which is not found taught by the prior art of record considered alone or in combination.

Claims 9 and 22 are allowable because they are directly dependent form claims 8 and 21, respectively.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2861

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

November 25, 2005